

ABSTRACT

A method of ablating tissue in the heart to treat atrial fibrillation introduces into a selected atrium an energy emitting element. The method exposes the element to a region of the atrial wall and applies ablating energy to the element to thermally destroy tissue. The method forms a convoluted lesion pattern comprising elongated straight lesions and elongated curvilinear lesions. The lesion pattern directs electrical impulses within the atrial myocardium along a path that activates the atrial myocardium while interrupting reentry circuits that, if not interrupted, would cause fibrillation. The method emulates the surgical maze procedure, but lends itself to catheter-based procedures that do not require open heart surgical techniques. A composite structure for performing the method is formed using a template that displays in planar view a desired lesion pattern for the tissue. An array of spaced apart element is laid on the template. Guided by the template, energy emitting and non-energy emitting zones are formed on the elements. By overlaying the elements, the composite structure is formed, which can be introduced into the body to ablate tissue using catheter-based, vascular access techniques.